CS360 Introduction to Database Homework 2

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Q-a. $\pi_{ProjectID,Location,Hours}(\tau_{Location,Workers}(PROJECT \bowtie (\gamma_{ProjectID,COUNT(EmployeeID)\rightarrow Workers,SUM(Hours)\rightarrow Hours}(WORKS\_ON))))$

Q-b. $\pi_{ProjectID,Hours}(\sigma_{AVGSalary>4200\ AND\ NumEmployee>3}(\gamma_{ProjectID,SUM(Hours)\rightarrow Hours,AVG(Salary)\rightarrow AVGSalary,COUNT(EmployeeID)\rightarrow NumEmployee}(EMPLOYEE \bowtie \pi_{EmployeeID,ProjectID,Hours}(\sigma_{Location='Chicago'}(WORKS\_ON \bowtie PROJECT)))))$

Q-c. $\pi_{Department,Name}(\delta(\pi_{Department}(EMPLOYEE)) \bowtie_L \sigma_{Manager='YES'}(EMPLOYEE))$

Q-d. $\delta(\pi_{Name,Salary}(\gamma_{ProjectID,MAX(Salary)\rightarrow Salary}(EMPLOYEE \bowtie WORKS\_ON) \bowtie (EMPLOYEE \bowtie WORKS\_ON)))$